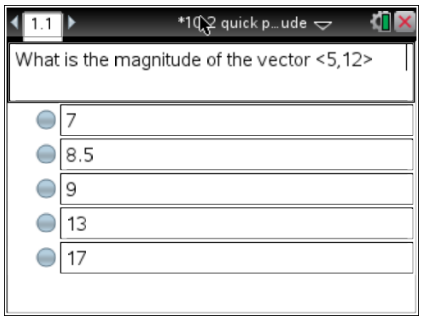
10.2 Vectors



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Vector valued functions

A particle moves in the plane so that its position at any time t>=0 is given by (sin t, t^2 / 2).
(a) Find the position vector
(b) Find the velocity vector
(c) Find the acceleration vector
(d) Determine the path of the particle
(e) Describe the position and motion of the particle at time t=6.
(f) Find the velocity and the speed at time t=6.

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Displacement and Distance Traveled

A parcle moves in the plane with velocity vector **v**(t) = (t-3πcos πt, 2t-πsin πt).

At t=0 the parcle is at the point (1,5)

(a) Find the posion of the parcle at t=4.

(b) What is the total distance traveled by the parcle from t=0 to t=4?

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